AMENDMENTS TO THE CLAIMS

Claims 1-62 are currently pending, of which claims 9, 10, and 13-17 are withdrawn.

Claims 52-56 are being canceled, and claims 5-8, 11, 12, 21-23, 27-29, 32-34, 38-41, 43-45, 49-51 and 60-62 are being amended.

After the amendments, claims 1-40, 41-51 and 57-62 will be pending. Claims 9, 10, and 13-17 are withdrawn from consideration.

This listing of claims replaces all prior versions and listings of claims in the application:

1. (Previously presented) An isolated nucleic acid encoding a polypeptide comprising the amino acid sequence of SEQ ID NO:2.

2. (Previously presented) An isolated nucleic acid encoding the amino acid sequence of SEQ ID NO:2 or a fragment thereof having a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

3. (Original) A vector into which the nucleic acid of claim 1 is inserted.

4. (Original) A vector into which the nucleic acid of claim 2 is inserted.

5. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 1.

6. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 2.

7. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 3.

8. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 4.

9. (Withdrawn) A substantially purified polypeptide encoded by the nucleic acid of claim 1.

10. (Withdrawn) A substantially purified polypeptide encoded by the nucleic acid of claim 2.

11. (Currently amended) A method for producing a polypeptide, the method comprising the steps of culturing the ~~transformant~~ host cell of claim 7 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, the polypeptide that comprises SEQ ID NO:2.

12. (Currently amended) A method for producing a polypeptide, the method comprising the steps of culturing the ~~transformant~~ host cell of claim 8 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, the polypeptide comprising SEQ ID NO:2 or a fragment thereof that has a function associated with the maintenance of differentiation of smooth muscle cells.

13. (Withdrawn) An antibody against the polypeptide of claim 9.

14. (Withdrawn) An antibody against the polypeptide of claim 10.

15. (Withdrawn) A polynucleotide that hybridizes with the nucleic acid comprising the nucleotide sequence of SEQ ID NO:1 or the complementary strand thereof and that comprises at least 15 nucleotides.

16. (Withdrawn) A method for screening for a compound that binds to the polypeptide of claim 9, the method comprising the steps of:

(a) contacting a test sample with the polypeptide or a partial peptide thereof,

(b) detecting a binding activity of the test sample to the polypeptide or the partial peptide thereof, and

(c) selecting a compound comprising the binding activity to the polypeptide or the partial peptide thereof.

17. (Withdrawn) A method for screening for a compound that binds to the polypeptide of claim 10, the method comprising the steps of:

(a) contacting a test sample with the polypeptide or a partial peptide thereof,

(b) detecting a binding activity of the test sample to the polypeptide or the partial peptide thereof, and

(c) selecting a compound comprising the binding activity to the polypeptide or the partial peptide thereof.

18. (Previously presented) The nucleic acid of claim 1 wherein the polypeptide consists of SEQ ID NO:2.

19. (Previously presented) An isolated nucleic acid comprising the coding sequence of SEQ ID NO:1.

20. (Previously presented) A vector comprising the nucleic acid of claim 19.

21. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 19.

22. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 20.

23. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 22 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, [[the]] a polypeptide that comprises ~~the encoded~~ a sequence [[of]] encoded by SEQ ID NO:1.

24. (Previously presented) An isolated nucleic acid encoding a polypeptide that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted, wherein said polypeptide has a function associated with the maintenance of differentiation of smooth muscle cells equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

25. (Currently amended) The nucleic acid of claim 24, wherein ~~up to 5~~ the number of amino acids that are replaced, deleted, and/or inserted is up to 5 ~~in the polypeptide~~.

26. (Previously presented) A vector comprising the nucleic acid of claim 24.

27. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 24.

28. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 26.

29. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 28 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, the polypeptide that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted.

30. (Currently amended) An isolated nucleic acid that hybridizes after washing with 0.1xSSC and 0.1% SDS at 65°C with ~~the nucleic acid~~ a probe consisting of the nucleotide sequence of SEQ ID NO:1, and that encodes a polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of the amino acid sequence of SEQ ID NO:2.

31. (Previously presented) A vector comprising the nucleic acid of claim 30.

32. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 30.

33. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 31.

34. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 33 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, the polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells.

35. (Previously presented) An isolated nucleic acid encoding a polypeptide that comprises an amino acid sequence at least 95% identical to SEQ ID NO:2, wherein the polypeptide has a function associated with the maintenance of differentiation of smooth muscle cells that is equivalent to that of the protein consisting of SEQ ID NO:2.

36. (Previously presented) The nucleic acid of claim 35 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:2.

37. (Previously presented) A vector comprising the nucleic acid of claim 35.

38. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 35.

39. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 37.

40. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 39 and recovering, from the ~~transformant~~ host cell or the culture supernatant thereof, the polypeptide having a function associated with the maintenance of differentiation of smooth muscle cells.

41. (Currently amended) An isolated nucleic acid encoding an oxidoreductase comprising the amino acid sequence of SEQ ID NO:2 ~~or a fragment thereof~~.

42. (Previously presented) A vector comprising the nucleic acid of claim 41.

43. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 41.

44. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 42.

45. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 44 and recovering the oxidoreductase from the ~~transformant~~ host cell or the culture supernatant thereof.

46. (Previously presented) An isolated nucleic acid encoding an oxidoreductase that comprises the amino acid sequence of SEQ ID NO:2, in which up to 10 amino acids are replaced, deleted, and/or inserted.

47. (Currently amended) The nucleic acid of claim 46, wherein ~~up to 5~~ the number of amino acids that are replaced, deleted, and/or inserted is up to 5 ~~in the oxidoreductase~~.

48. (Previously presented) A vector comprising the nucleic acid of claim 46.

49. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 46.

50. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 48.

51. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 50 and recovering the oxidoreductase from the ~~transformant~~ host cell or the culture supernatant thereof.

52.-56. (Canceled)

57. (Previously presented) An isolated nucleic acid encoding an oxidoreductase that comprises an amino acid sequence at least 95% identical to SEQ ID NO:2.

58. (Previously presented) The nucleic acid of claim 57 wherein the amino acid sequence is at least 98% identical to SEQ ID NO:2.

59. (Previously presented) A vector comprising the nucleic acid of claim 57.

60. (Currently amended) A ~~transformant~~ host cell harboring the nucleic acid of claim 57.

61. (Currently amended) A ~~transformant~~ host cell harboring the vector of claim 59.

62. (Currently amended) A method for producing a polypeptide, comprising the steps of culturing the ~~transformant~~ host cell of claim 61 and recovering the oxidoreductase from the ~~transformant~~ host cell or the culture supernatant thereof.